

## **IN THE CLAIMS**

This listing of the claim will replace all prior versions and listings of claim in the present application.

### **Listing of Claims**

Claim 1 (canceled).

2. (currently amended) A turbo decoder comprising:

a decoder for inputting data turbo-coded for correcting an error and repeatedly carrying out soft output decoding to thereby restore original data;

judging means for judging a reliability of a soft output decoding result from said decoder provided by the soft output decoding from statistics of the soft output decoding result; and

controlling means for controlling the number of iterations of the soft output decoding based on a result of judgment, by said judging means, of the reliability of the soft output decoding result from said decoder. ~~The turbo decoder according to Claim 1:~~

wherein ~~the~~ said judging means uses a mean value and a dispersion value of the soft output decoding result from said decoder as the statistics for judging the reliability of the soft output decoding result from said decoder.

3. (currently amended) A turbo decoder comprising:

a decoder for inputting data turbo-coded for correcting an error and repeatedly carrying out soft output decoding to thereby restore original data;

judging means for judging a reliability of a soft output decoding result from said decoder provided by the soft output decoding from statistics of the soft output decoding result; and

controlling means for controlling the number of iterations of the soft output decoding based on a result of judgment, by said judging means, of the reliability of the soft output decoding result from said decoder.

wherein the said judging means uses a mean value and a minimum value of the soft output decoding result from said decoder as the statistics for judging the reliability of the soft output decoding result from said decoder.

4. (currently amended) A turbo decoder comprising:

a decoder for inputting data turbo-coded for correcting an error and repeatedly carrying out soft output decoding to thereby restore original data;

judging means for judging a reliability of a soft output decoding result from said decoder provided by the soft output decoding from statistics of the soft output decoding result; and

controlling means for controlling the number of iterations of the soft output decoding based on a result of judgment, by said judging means of the reliability of the soft output decoding result from said decoder. ~~The turbo decoder according to Claim 1:~~

wherein the said judging means uses a maximum value and a minimum value of the soft output decoding result from said decoder as the statistics for judging the reliability of the soft output decoding result from said decoder.

5. (currently amended) A mobile station of a mobile communication system, said mobile station comprising:

a radio frequency circuit for receiving a radio frequency signal of data turbo-coded for correcting an error by an antenna and outputting a received signal;

a receiver for outputting original data from the received signal as received data; and

a signal processor for subjecting the received data to a signal processing;

the receiver further comprising:

a turbo decoder for decoding the turbo-coded data constituting the received signal for outputting the received data,

the turbo decoder comprising:

a decoder for inputting the turbo-coded data and repeatedly carrying out soft output decoding to thereby restore the original data;

judging means for judging a reliability of a soft output decoding result from said decoder provided by the soft output decoding from statistics of the soft output decoding result, and

controlling means for controlling the number of an iteration-iterations ~~number of the soft output decoding based on a~~ result of judgment, by said ~~judging means, result of the reliability of the soft output decoding result from~~ said decoder-judging means.

wherein said judging means uses, as the statistic for judging the reliability, one of:

a mean value and a dispersion value of the soft output decoding result from said decoder.

\_\_\_\_\_ a mean value and a minimum value of the soft output decoding result from said decoder, and

\_\_\_\_\_ a maximum value and a minimum value of the soft output decoding result from said decoder.

6. (currently amended) A base station of a mobile communication system, said base station comprising:

a radio frequency circuit for receiving a radio frequency signal of data turbo-coded for correcting an error by an antenna and outputting a received signal;

a receiver for outputting original data from the received signal as received data; and

a station interface circuit for transmitting the received data to a communication network,

the receiver comprising:

a turbo decoder for decoding the turbo-coded data and outputting the received data,

the turbo decoder comprising:

a decoder for inputting the turbo-coded data constituting the received signal and repeatedly carrying out soft output decoding to thereby restore the original data,

judging means for judging a reliability of a soft output decoding result from said decoder provided by the soft output decoding from statistics of the soft output decoding result, and

controlling means for controlling the number of an iteration-iterations  
number of the soft output decoding based on a result of judgment, by said  
judging means, result of the reliability of the soft output decoding result from  
said decoderdetermining means.

wherein said judging means uses, as the statistic for judging the  
reliability, one of:

a mean value and a dispersion value of the soft output decoding result  
from said decoder.

a mean value and a minimum value of the soft output decoding result  
from said decoder, and

a maximum value and a minimum value of the soft output decoding  
result from said decoder.